Wastewater Management Section

List of Registered On-site Treatment and Distribution Products

As Established in Chapter 246-272A WAC

March 1, 2013

For more information or additional copies of this document contact:
Wastewater Management Section
Washington State Department of Health
Physical address: 243 Israel Road SE, Tumwater, WA 98501
Mailing address: PO Box 47824, Olympia, WA 98504-7824

Phone: (360) 236-3330
FAX: (360) 236-2257
Email: wastewatermanagement@doh.wa.gov

Mary Selecky
Secretary of Health

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Contents

NOTE:

The presence of a product on this list does not constitute approval of marketing, advertising, or labeling practices employed by a manufacturer, nor is it an affirmation of manufacturer claims of product performance. Registration listing does not constitute endorsement of these products by the Washington State Department of Health. Information obtained from the sources listed is the sole responsibility of the manufacturer or other provider.

Links to external resources are provided as a public service, and do not imply endorsement by the Washington State Department of Health.

Updates this revision:

Manufacturer	Model(s) Number	Approved
Enviro-Flo Inc	NuWater BNR 600, and NuWater BNR 600 with 2 Salcor 3G UV units	February 12, 2013

SECTION 1 – Introduction and Overview

Chapter 246-272A WAC establishes a process for proprietary on-site product registration with requirements for testing, testing protocols, performance thresholds levels, and application processes. This registration process replaces the previous requirement of having to be on the "List of Approved Systems and Products" (Approved List). When the Washington State Department of Health (DOH or "the department") has determined that a product meets the registration requirements that are established in the rules, the product will be placed on the "List of Registered On-site Treatment and Distribution Products" (Registered List). This document is a revision to the initial edition of the "Registered List".

Beginning March 16, 2007, product registration became a condition of approval for use of all proprietary treatment and distribution products, and local health jurisdictions may only permit products that are on the "Registered List".

All types of sewage technologies must either have standards for use described in WAC 246-272A or departmental Recommended Standards and Guidance (RS&G) before the local health officer may permit them. Specific conditions for the use of each system technology or product are described in the RS&G documents relevant to the proprietary device. The most recently published edition of any RS&G can be obtained from our website on: http://www.doh.wa.gov/CommunityandEnvironment/WastewaterManagement/FormsPublications.aspx.

Product models, rated capacities, treatment processes, treatment levels, and dimensional descriptions information are included in the tables of this document. In addition, terms used in this document, which need definition or clarification, are provided in Section 4 - Glossary of terms. This information is provided to facilitate equipment selection and promote proper application of the technology.

We welcome suggestions to improve this document. If you identify an error or have an idea about how to improve the usefulness of this document, feel free to contact staff in the Wastewater Management Program at the Washington State Department of Health, Office of Shellfish and Water Protection at 360-236-3330.

Overview

Treatment components or distribution technologies, both proprietary and public domain (other than a sewage tank, or a gravel-filled drainfield fed either by a gravity or pressure distribution network), must be on the Department's "Registered List" before they may be permitted by the local health officer. Prior to placement on this list, the following must occur:

1. For all treatment components and distribution technologies other than sewage tanks, the Department of Health, with the assistance of the Technical Advisory Committee (TAC), may develop guidance in the form of Recommended Standards and Guidance (RS&G) for a particular type of technology. Each RS&G may include application, design, installation, operation, monitoring and maintenance, and performance expectation information.

2. For proprietary treatment and distribution products, the manufacturer has submitted an application for registration containing the information required by WAC 246-272A. For proprietary treatment products, this information shall verify that the performance of the proprietary treatment product was tested according to the appropriate testing protocol and include the results of the testing.

3. The department will verify the information on the application and register the product if all the required information and data are included in the application.

Categories of Treatment Product and Treatment Levels

This document registers the category and treatment level that is met by a treatment product. Applicable terms to help understand this listing include:

Category 1 treatment product – a treatment component designed to treat sewage typical of a residential source when septic tank effluent is anticipated to be equal to or less than Treatment Level E (*See Table 1*).

Category 2 treatment product – a treatment component designed to treat high-strength sewage when septic tank effluent is anticipated to be greater than Treatment Level E. Examples of sources of high-strength sewage usually include restaurants, grocery stores, mini-marts, group homes, medical clinics, or residences.

Category 3 treatment product – a black water (human wastes) component of residential sewage. The primary examples are composting and incinerating toilets.

Treatment Level – one of six levels (A, B, C, D, E, & N) noted in Table 1 and used in WAC 246-272A to:

(a) Identify treatment component performance demonstrated requirements specified in WAC 246-272A-0110, and

(b) Match site conditions of vertical separation and soil type with treatment components. Treatment levels used in WAC 246-272A are not intended to be applied as field compliance standards. Their intended use is for establishing treatment product performance in a product testing setting under established protocols by qualified testing entities.

Table 1. Treatment Levels

Level	Parameters				
	$CBOD_5$ (mg/L)	**TSS (mg/L)**	**O&G (mg/L)**	**FC (#/100 ml)**	**TN (mg/L)**
A	10	10	----	200	----
B	15	15	----	1,000	----
C	25	30	----	50,000	----
D	25	30	----	----	----
E	125	80	20	----	----
N	----	----	----	----	20

Note:
Values for Levels A - D are maximum 30-day values (averages for $CBOD_5$, TSS, and geometric mean for FC.) All 30-day averages throughout the test period must meet these values in order to be registered at these levels. Values for Levels E and N are derived from full test averages.

SECTION 2 – List of Manufacturers of Registered Proprietary On-site Products

This section presents the current list of manufacturers who have submitted proprietary treatment and/or proprietary distribution products for DOH review and were found to meet the registration requirements in WAC 246-272A. This list notes the manufacturer, the manufacturer's contact information, products' names/models that have been reviewed and registered by DOH, and product treatment processes or type. To determine what the specific products are registered for, see Section 3.

If a certain manufacturer or product is not listed (either on this registered List or the Approved List), or if a listed manufacturer's specific model number is not included on the list (either this Registered List or the Approved List), the product IS NOT APPROVED for use in Washington State and may not be permitted by the local health officer.

Disclaimer

The manufacturers' contact information is presented here for information purposes only. Product registration and listing does not constitute departmental approval of marketing, advertising or labeling practices employed by a manufacturer, nor does it constitute an endorsement of these products, nor a preference among the manufacturers.

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Advanced Septic Treatment Systems, Inc. 8000 Parker Rd. Sedro Woolley, WA 98284 Tel: (360) 856-0550 Fax: (360) 856-0551 Web: www.trd1000.com	TRD-1000-500 with UV disinfection unit TRD-1000-600 with UV disinfection unit TRD-1000-700 with UV disinfection unit TRD-1000-800 with UV disinfection unit TRD-1000-900 with UV disinfection unit TRD-1000-1000 with UV disinfection unit	500 600 700 800 900 1000	Sequencing Batch Reactor with Filtration Process & UV Disinfection Treatment Sequence
Anua PO Box 77457 Greensboro NC 27417 Tel: (800) 787-2356 Tel: (336) 547-9338 Fax: (336) 547-8559 E-mail: info@anua-us.com Web: http://www.anua-us.com	Puraflo Peat Fiber Biofilter Wastewater Treatment System P150N 3A P150N 3B P150N 4A P150N 4B P150N 5A P150N 5B P150N 6A P150N 6B P150N 7B P150N 8B P150N 9B P150N 10B Type “A” models have weep holes. Type “B” models are closed bottomed.	 450 450 600 600 750 750 900 900 1050 1200 1350 1500	Attached Growth Single-pass Packed Bed Filter

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Bio-Microbics, Inc. 8450 Cole Parkway Shawnee, KS 66070 Tel: (800) 753-3278 Tel: (913) 422-0707 Fax: (913) 422-0808 E-mail: onsite@biomicrobics.com Web: http://www.biomicrobics.com	FAST Wastewater Treatment System RetroFAST 0.375 MicroFAST 0.5 MicroFAST 0.75 MicroFAST 0.9 MicroFAST 1.5 MicroFAST 3.0* MicroFAST 4.5* MicroFAST 9.0* *For Total Nitrogen reduction supplemental BOD may be applied in the form of MicroCg™ when the influent BOD:TKN ratio is less than 4:1. For Total Nitrogen applications with or without the addition of MicroCg™ the system design will require a review by Bio-Microbics, Inc.	 375 500 750 900 1500 3000 3500 3500	Attached & Suspended Growth
	FAST, Wastewater Treatment System with the Salcor 3G UV disinfection unit* MicroFAST 0.5 with the Salcor 3G MicroFAST 0.75 with the Salcor 3G - 2 MicroFAST 0.9 with the Salcor 3G - 2 MicroFAST 1.5 with the Salcor 3G - 3 MicroFAST 3.0 with the Salcor 3G – 6** MicroFAST 4.5 with the Salcor 3G – 7** MicroFAST 9.0 with the Salcor 3G – 7** *MicroFAST treated effluents are split to multiple Salcor 3G units proportionally so that each UV unit receives no more than 500 gpd. **For Total Nitrogen reduction supplemental BOD may be applied in the form of MicroCg™ when the influent BOD:TKN ratio is less than 4:1. In model applications with or without the addition of MicroCg™ the system design will require a review by Bio-Microbics, Inc.	 500 750 900 1500 3000 3500 3500	Attached & Suspended Growth & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Bio-Microbics, Inc. (continued)	BioBarrier MBR, Wastewater Treatment System MBR 0.5 MBR 1.0 MBR 1.5	 500 1000 1500	Membrane Bioreactor
	BioBarrier MBR, Wastewater Treatment System MBR 0.5-N MBR 1.0-N MBR 1.5-N Requires a three compartment tank w/ a mixing pump in the middle chamber.	 500 1000 1500	Membrane Bioreactor with Nitrogen Reduction
Clarus Environmental – Zoeller Family of Water Solutions 3649 Cane Run Road Louisville, KY 62025 Tel: (800) 928-7867 E-mail: wesc@zoeller.com Web: http://www.clarusenvironmental.com	Fusion Wastewater Treatment System ZF450 ZF600 ZF800	 450 600 800	Attached & Suspended Growth

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Consolidated Treatment System, Inc. 1501 Commerce Center Drive Franklin, OH 45005 Tel: (937) 746-2727 Fax: (937) 746-1446 E-mail: jeff@consolidatedtreatment.com Web: http://www.consolidatedtreatment.com	Enviro-Guard Wastewater Treatment System ENV-0.75 with the Salcor 3G UV disinfection unit	750	Suspended Growth with Filtration Process & UV Disinfection Treatment Sequence
	Multi-Flo Wastewater Treatment System FTB-0.5 FTB-0.6 FTB-0.75 FTB-1.0 FTB-1.5	 500 600 750 1000 1500	 Suspended Growth with Filtration Process
	Nayadic Wastewater Treatment System M-6A-F/M-6 M-6A-C/M-6AC-F M-8A-F/M-8A M-1050-F/M-1050A M-1200-F/M-1200A M-2000-F/M-2000A	 500 500 600 800 1000 1500	 Suspended Growth

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Delta Environmental Products 8263 Florida Blvd. Denham Springs, LA 70726 Tel: (800) 219-9183 x1980 Fax: (225) 664-9467 E-mail: desales@deltaenvironmental.com Web: http://www.deltaenvironmental.com	Whitewater DF Series Aerobic Treatment Units DF75 DF100 DF100A DF150	 750 1000 1000 1500	Suspended Growth
	Whitewater DF Series Aerobic Treatment Units with the Salcor 3G UV disinfection unit DF50 with Salcor 3G DF60 with Salcor 3G	 500 600	Suspended Growth & UV Disinfection Treatment Sequence
	ECOPOD Fixed Film Wastewater Treatment System E50 E60	 500 600	Attached Growth
	ECOPOD Fixed Film Wastewater Treatment System with the Salcor 3G UV disinfection unit E50 with Salcor 3G E60 with Salcor 3G	 500 600	Attached Growth & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Delta Environmental Products (continued)	ECOPOD N Series Wastewater Treatment System E50NCA E50-N-IM1060 E60NCA E60-N-IM1060 E75NCA E75-N-IM1060 E100NCA E150NCA E200-NFF E250-NFF E300-NFF	 500 500 ..600 600 750 ..750 1000 1500 2000 2500 3000	Attached Growth
	ECOPOD N Series Wastewater Treatment System with the Salcor 3G UV disinfection unit E50NCA E50-N-IM1060 E60NCA E60-N-IM1060 E75NCA E75-N-IM1060 E100NCA E150NCA E200-NFF E250-NFF E300-NFF	 500 ..500 ..600 600 750 ..750 1000 1500 2000 2500 3000	Attached Growth and UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Ecological Tanks, Inc 2247 Highway 151 North Downsville, LA 71234 Tel: (800) 277-8179 Tel: (318) 644-0397 Fax: (618) 644-7257 E-mail: aquasafe@bayou.com Web: http://www.etiaquasafe.com	Aqua Safe Series AS500 AS600 AS750 AS1000 AS1500 AS500L AS600L AS800L AS1100L	 500 600 750 1000 1500 500 600 800 1100	Suspended Growth
	Aqua Safe AS600 + 4NR	600	Suspended Growth
	Aqua Safe AS600 + 4NR w/ UV Disinfection	600	Suspended Growth & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Eljen Corporation 125 McKee Street East Hartford, CT 06108 Tel: (800) 444-1359 Fax: (860) 610-0427 E-mail: info@eljen.com Web: http://www.eljen.com	Eljen GSF Geotextile Sand Filter System GSF/B43 Timed Pressure Dose Mode[1] GSF/B43 Demand Dosed to Gravity Mode[2] [1]System uses a pump to timed dose septic tank effluent to a pressure distribution network for distributing the effluent uniformly over the GSF by pressure. [2]System uses a pump to demand dose septic tank effluent to a D-box for distributing the effluent over the GSF by gravity.	 ≥240 240-450	Attached Growth Single-pass Geotextile Sand Filter

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Enviro-Flo, Inc. 151 Custom Drive Flowood, MS 39232 Tel: (877) 836-8476 Tel: (601) 939-2948 Fax: (601) 939-3526 E-mail: joe@enviro-flo.net Web: http://www.enviro-flo.com ****NOTE: This product was formerly named Bio-Robix.**	NuWater** Model B-500 with the Enviro-Flo UV disinfection unit	500	Suspended Growth & UV Disinfection Treatment Sequence
	Enviro-Flo Wastewater Treatment System E-500 E-550 E-600 E-750 E-1000	 500 550 600 750 1000	Suspended Growth
	NuWater** BNR 500 BNR 600	 500 600	Suspended Growth
	NuWater** BNR 500 with Salcor 3G UV BNR 600 with Salcor 3G UV	 500 600	Suspended Growth & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Glendon BioFilter Technologies, Inc. PO Box 2585 Gig Harbor, WA 98335 Tel: (206) 819-8803 E-mail: paulv@glendon.com Web: http://www.glendon.com	Glendon BioFilter Treatment System M31* *Multiple units, in the same or a variety of sizes, may be used in parallel to accomplish daily design flows to 3,500 gpd.	120 (per each prefabricated basin)	Upflow Media Filtration
	Glendon BioFilter Treatment System M32* *Multiple units, in the same or a variety of sizes, may be used in parallel to accomplish daily design flows to 3,500 gpd.	120 (per each prefabricated basin)	Upflow Media Filtration
Jet, Inc. 750 Alpha Drive Cleveland, Ohio 44143 Tel: (800) 321-6960 Fax: (440) 538-8534 E-mail: eschloss@jetincorp.com Web: http://www.jetincorp.com	Jet Inc. Model J-500 Wastewater Treatment System	500	Attached & Suspended Growth
	Jet Inc. Model J-500 with the Salcor 3G UV disinfection unit	500	Attached & Suspended Growth & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
MST Manufacturing, LLC MicroSepTec 23362 Madero, Suite C Mission Viejo, CA 92691 Tel: (877) 4SEPTIC Tel: (949) 297-4590 Fax: (949) 916-2093 E-mail: microseptec@microseptec.com Web: http://www.microseptec.com	EnviroServer ES6-P ES12-P ENFG 600 ENFG 1200	 600 1200 600 1200	Attached & Suspended Growth

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Norweco, Inc. 220 Republic Street Norwalk, OH 44857-1196 Tel: (419) 668-4471 Fax: (419) 663-5440 E-mail: customerservice@norweco.com Web: http://www.norweco.com	Singulair Wastewater Treatment System (960 series)		Suspended Growth with Filtration Process
	Singulair 960-500	500	
	Singulair 960-500	600	
	Singulair 960-750	750	
	Singulair 960-750	800	
	Singulair 960-1000	1000	
	Singulair 960-1250	1250	
	Singulair 960-1500	1500	
	Singulair 960LP-500	500	
	Singulair 960LP-500	600	
	Singulair 960LP-1000	1000	
	Singulair 960-OP-500	500	
	Singulair 960-OP-500	600	
	Singulair 960-OP-1000	1000	
	Singulair Wastewater Treatment System (TNT series)		Suspended Growth with Filtration Process
	Singulair TNT-500	500	
	Singulair TNT-500	600	
	Singulair TNT-750	750	
	Singulair TNT-750	800	
	Singulair TNT-1000	1000	
	Singulair TNT-1250	1250	
	Singulair TNT-1500	1500	
	Singulair TNT-OP-500	500	
	Singulair TNT-OP-500	600	
	Singulair TNT-OP-1000	1000	
	Singulair Model TNT-500 with the Singulair UV disinfection unit	500	Suspended Growth with Filtration Process & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Orenco Systems Inc. 814 Airway Avenue Sutherlin, Oregon 97479 Tel: (800) 348-9843 Tel: (541) 459-4449 Fax: (541) 459-2884 E-mail: nnoble@orenco.com Web: http://www.orenco.com	AdvanTex® Wastewater Treatment System AX20RT (2 or 3 compartment recirculating tank) AX20 AX25RT *AX20 – 2 *AX20 – 3 *AX20 – 4 *AX100 *AX100 – 2	 500 500 625 1000 1500 2000 2500 3500	Attached Growth Multipass Packed Bed Filter
	AdvanTex® AX Series with the Salcor 3G UV disinfection unit AX20RT (2 or 3 compartment recirculating tank) AX20 with Salcor 3G AX25RT with Salcor 3G *AX20 – 2 with Salcor 3G - 2 *AX20 – 3 with Salcor 3G - 3 *AX20 – 4 with Salcor 3G - 4 *AX100 with Salcor 3G - 5 *AX100 – 2 with Salcor 3G -7 *System applications greater than 6 bedrooms and applications other than single family residential will require a design review by Orenco Systems, Inc.	 500 500 625 1000 1500 2000 2500 3500	Attached Growth Multipass Packed Bed Filter & UV Disinfection Treatment Sequence

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Orenco Systems Inc. (continued)	AdvanTex® AX-MAX Series (with discharge pump assembly) AX-MAX075-14 AX-MAX125-21 AX-MAX175-28 AdvanTex AX-MAX Series with the Salcor 3G UV disinfection unit (without discharge pump assembly) AX-MAX075-14 with Salcor 3G - 4 AX-MAX125-21 with Salcor 3G – 7 AX-MAX175-28 with Salcor 3G - 7	 1,875 3,125 3,500 1,875 3,125 3,500	 Attached Growth Multipass Packed Bed Filter Attached Growth Multipass Packed Bed Filter & UV Disinfection Treatment Sequence
Premier Tech Aqua 1 Avenue Premier Riviere-du-Loup, Quebec, Canada GSR 6C1 Tel: (800) 632-6356 Fax: (418) 862-6642 E-mail: belm2@premiertech.com Web: http://www.premiertechenv.com	Ecoflo Biofilter Wastewater Treatment System STB-500* STB-650* STB-650B* STB-650BR* *All models are closed bottom. Models STB-650B and STB-650BR have a concrete shell	 420 600 600 600	 Attached Growth Single-pass Packed Bed Filter

Manufacturers of Registered Category 1 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
SeptiTech, Inc. 69 Holland Street Lewiston, ME 04240 Tel: (207) 333-6940 Fax: (207) 333-6944 E-mail: info@septitech.com Web: http://www.septitech.com	SeptiTech Treatment System M400D M550D M750D M1200D M1500D	 440 660 880 1200 1500	Trickling Filter
	SeptiTech Treatment System N-M400 N-M550 N-M750 N-M1200 N-M1500	 440 660 880 1200 1500	Trickling Filter
Spec Industries, Inc 550 Parkson Road Henderson, NV 89011 Tel: (702) 558-4444 Fax: (702) 558-4563 E-mail: Sales@specind.biz Web: http://www.specind.biz	Alternating Intermittent Recirculating Reactor AIRR 714	 490	Attached growth Multipass Packed Bed Filter

Manufacturers of Registered Category 2 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (gpd)	Treatment Process
Aqua Test Inc. PO Box 1116 Black Diamond, WA 98010 Tel: 1-800-221-3159 Tel: (425) 432-9360 Fax: (425) 413-9431 E-mail: office@aquatestinc.com Web: http://www.aquatestinc.com	NIBBLER Wastewater Treatment Process NIBBLER SBP & NIBBLER CBP	200 (when O&G is ≤50 mg/L) 137.5 (when O&G is >50 mg/L)	Attached & Suspended Growth
	NIBBLER Jr.	500	Attached & Suspended Growth
Bio-Microbics, Inc. 8450 Cole Parkway Shawnee, KS 66227 Tel: (800) 753-3278 Tel: (913) 422-0707 Fax: (913) 422-0808 E-mail: onsite@biomicrobics.com Web: http://www.biomicrobics.com	FAST Wastewater Treatment System MicroFAST 0.5 MicroFAST 0.75 MicroFAST 0.9 MicroFAST 1.5 MicroFAST 3.0 MicroFAST 4.5 MicroFAST 9.0 *Models designed to treat high-strength sewage with the O&G influent level to the MicroFAST < 50 mg/L. Models may be used in non-single family residential designs when the design is reviewed by Bio-Microbics Inc. and documentation of the review is provided.	 500 750 900 1500 3000 3000 3000	Attached & Suspended Growth

Manufacturers of Registered Category 3 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (persons or uses/day)	Treatment Process
Clivus Multrum, Inc. 1Union Street Lawrence, MA 01840 Tel: (800) 425-4887 Fax: (978) 557-9658 E-mail: brian@clivusmultrum.com Web: http://www.clivusmultrum.com	Clivus Multrum Composting Toilet M1 M2 M3 M10 M12 M15 M18 M22 M28 M32 M35 M54ADA	 10-uses/day 15 uses/day 40 uses/day 60 uses/day 80 uses/day 100 uses/day 120 uses/day 80 uses/day 120 uses/day 110 uses/day 180 uses/day 60 uses/day	Composting Toilet
Composting Toilet Systems, Inc. PO Box 1928 Newport, WA 99156-1928 Tel: (888) 786-4538 Tel: (509) 447-3708 Fax: (509) 447-3708 E-mail: info@comtoilet.com Web: http://www.comtoilet.com	Composting Toilet System CTS-410 CTS-710 CTS-904 CTS-914 CTS-1010 Outback	 4-person residential 7-person residential 60 uses/day 120 uses/day 10-person residential (75 uses/day) 0-2 uses/day	Composting Toilet

Manufacturers of Registered Category 3 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (persons or uses/day)	Treatment Process
Research Products / Blankenship 2639 Andjon Drive Dallas, TX 75220 Tel: (800) 527-5551 Tel: (214) 358-4238 Fax: (214) 350-7919 E-mail: sales@incinolet.com Web: http://www.incinolet.com	Incinolet Electric Incinerating Toilet CF TR WB	 4-person 8-person 4/8-person	Incinerating Toilet
Sancor Industries Ltd. 341 Marwood Drive Oshawa, Ontario, Canada LIH 7P8 Tel: (800) 387-5126 Tel: (416) 299-4818 Fax: (416) 299-3124 E-mail: info@sancorindustries.com Web: http://www.envirolet.com	Envirolet Composting Toilet IUEBP06 3UEDC06 2UEMS06 4UEWRNE06 6UEWSDC06 5UEWRAC06 Santerra Green (formerly Blooloo) Composting Toilet BLX10NEU BLX20DCU BLX30ACU BLX40NEU BLX50DCU BLX60ACU	 2-person residential 4-person residential 6-person residential 4-person residential 6-person residential 8-person residential 2-person residential 4-person residential 6-person residential 4-person residential 6-person residential 8-person residential	Composting Toilet

Manufacturers of Registered Category 3 Proprietary On-site *Treatment* Products

Manufacturer/Contact Information	Product Name/Model	Rated Capacity (persons or uses/day)	Treatment Process
Sun-Mar Corporation 5370 South Service Road Burlington, Ontario, Canada L7L 5L1 Tel: (800) 461-2461 Tel: (905) 332-1314 Fax: (905) 332-1315 E-mail: compost@sun-mar.com Web: http://www.sun-mar.com	Sun-Mar Composting Toilet Excel Centrex 2000 A/F Centrex 2000 A/F AC/DC Centrex 3000 A/F Centrex 3000 A/F AC/DC Compact Spacesaver Sun-Mar Mobile Excel NE	 3-person residential 4-person residential 3-person residential 5-person residential 4-person-residential 1-person residential 1-person residential 1-person residential 2-person residential	Composting Toilet

Manufacturers of Registered Proprietary On-site *Distribution* Products

Manufacturer/Contact Information	Product Name/Model	Type of Distribution Product
Geoflow, Inc. 506 Tamal Plaza Corte Madera, CA 94925 Tel: (800) 828-3388 Tel: (415) 927-6000 Fax: (415) 927-0120 E-mail: krf@geoflow.com Web: http://www.geoflow.com	Wasteflow Pressure Compensating WFPC16-2:9,12,18,24 WFPC16-4:9,12,18,24 WFPCas16-2:9,12,18,24 WFPCas16-4:9,12,18,24 Wasteflow Classic WFCL16-4:9,12,18,24	Dripline
ICC Technologies 240 Boundary Road Marlboro, NJ 07746 Tel: (732) 683-9600 Fax: (732) 683-9911 E-mail: iccbud@verizon.net Web: http://www.iccflowtech.com/	ICC Flowtech Drainage System FTSG103H-1 FTSG103T-1 FTSG123H-1	Gravel Substitute

Manufacturers of Registered Proprietary On-site *Distribution* Products

Manufacturer/Contact Information	Product Name/Model	Type of Distribution Product
Infiltrator Systems, Inc. 4 Business Park Road PO Box 768 Old Saybrook, CT 06475 Tel: (800) 221-4436 Tel: (860) 577-7100 Fax: (860) 577-7001 E-mail: info@infiltratorsystems.net Web: http://www.infiltratorsystems.com EZ Flow by Infiltrator Infiltrator Systems, Inc. 4 Business Park Road PO Box 768 Old Saybrook, CT 06475 Tel: (800) 221-4436 Fax: (860) 577-7001 E-mail: info@infiltratorsystems.net Web: http://www.ezflowlp.com	Infiltrator Chamber Leach Field System Standard ARC 36 ARC 36HC ARC 36 LP ARC 24 14” High Capacity 11” Standard Bio 2 Bio 3 High Capacity Equalizer 36 Equalizer 24 Quick4 Standard Quick4 High Capacity Quick4 Equalizer 36 Quick4 Equalizer 24 Quick4 Plus Standard Quick4 Plus Standard Low Profile	Gravelless Chamber
	EZflow Systems 1003-H 1003-T 1203-H 1003-H-GEO 1003-T-GEO 1203-H-GEO	Gravel Substitute

Manufacturers of Registered Proprietary On-site *Distribution* Products

Manufacturer/Contact Information	Product Name/Model	Type of Distribution Product
Netafim 5470 E. Home Avenue Fresno, CA 93727 Tel: (888)-638-2346 Tel: (585) 615-6440 E-mail: mstoll@Netafimusa.com Web: http://www.netafimusa.com	Bioline Dripperline* 0.4 GPH Dripper 0.6 GPH Dripper 0.9 GPH Dripper *"Techfilter" disk filter with root inhibitor implanted into replaceable disk cartridge is optional.	Dripline

SECTION 3 – List of Registered On-site Treatment and Distribution Products

The following pages present the current list of registered treatment and distribution products by product type, under the categories and allowances provided in WAC 246-272A. The list includes lists of the following:

- Treatment products
  - Categories 1, 2, & 3
  - Treatment levels met as verified by test results using the protocol required by WAC 246-272A
  - Treatment standards 1 and/or 2 as verified by test results using the protocol for Category 1 systems in WAC 246-272A. This portion of the list is used in conjunction with WAC 246-272 and will be applicable only until June 30, 2007. Since the "List of Approved Systems and Products" became static on September 15, 2005, this list exists for manufacturers who apply to DOH to have their product placed on the "Registered List of Systems and Products," allowing newly listed technologies to be used to meet the treatment standards included in WAC 246-272.
  - Both proprietary and public domain
- Proprietary distribution technologies
  - Gravelless Distribution Products
  - Subsurface Dripline Products

To locate the contact information for a product, find the product in the alphabetical list of manufacturers in Section 2. Unless this list contains specific model numbers, all models listed in Section 2 can be assumed to meet the applicable requirements for listing in this section.

If a certain product is not listed, or if a listed manufacturer's specific model number is not included on the list (either this Registered List or the Approved List), the product IS NOT APPROVED for use in Washington State and may not be permitted by the local health officer.

Disclaimer

Product registration and listing does not constitute departmental approval of marketing, advertising, or labeling practices employed by a manufacturer, nor does it constitute an endorsement of these products, nor a preference among the manufacturers.

Registered On-site *Treatment* Products

Category 1

Proprietary **Product Name / Model**	TLA	TLB	TLC	TLD	TLE	TLN
AdvanTex AX20RT, AX20, AX25RT, AX20-2, AX20-3, AX20-4, AX100, AX100-2, AX-MAX, AX-MAX075-14, AX-MAX125-21, AX-MAX175-28			✓	✓		✓
AdvanTex AX20RT, AX20 , AX25RT, AX20-2, AX20-3, AX20-4, AX100, AX100-2, AX-MAX, AX-MAX075-14, AX-MAX125-21, AX-MAX175-28 with Salcor 3G UV units	✓	✓				✓
Aqua Safe Series AS500, AS600, AS750, AS1000, AS1500, AS500L, AS600L, AS800L, and AS1100L				✓	✓	
Aqua Safe AS600 + 4RN				✓	✓	
Aqua Safe AS600 + 4RN with UV Disinfection		✓				
AIRR 714				✓	✓	
BioBarrier MBR 0.5, 1.0, and 1.5	✓	✓	✓	✓		
BioBarrier MBR 0.5-N, 1.0-N, and 1.5-N	✓	✓	✓	✓		✓
Ecoflo STB-500, STB-650, STB-650B, STB-650BR		✓	✓	✓		
ECOPOD E50, E60				✓	✓	
ECOPOD E50 and E60 with Salcor 3G UV		✓				
ECOPOD E50NCA, E60NCA, E75NCA, E100NCA, E150NCA, E200-NFF, E250-NFF, E300-NFF, E50-N-IM1060, E60-N-IM1060, E75-N-IM1060			✓	✓		
ECOPOD E50NCA, E60NCA, E75NCA, E100NCA, E150NCA, E200-NFF, E250-NFF, E300-NFF, E50-N-IM1060, E60-N-IM1060, E75-N-IM1060 with Salcor 3G UV	✓	✓				
Eljen GSF/B43			✓	✓		
Enviro-Flo E-500, E-550, E-600, E-750, & E-1000				✓	✓	
Enviro-Guard ENV-0.75 with Salcor 3G UV	✓	✓				
EnviroServer ES6-P, ES12-P, ENFG 600, ENFG 1200				✓	✓	
Fusion ZF450, ZF600, ZF800				✓	✓	
Glendon BioFilter M31	✓	✓	✓			
Glendon BioFilter M32	✓	✓	✓			
Jet Inc. Model J-500			✓	✓		
Jet Inc. Model J-500 with the Salcor 3G UV	✓	✓				
MicroFAST 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0				✓	✓	✓
MicroFAST 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0 with Salcor 3G UV	✓	✓				✓
Multi-Flo FTB-0.5, FTB-0.6, FTB-0.75, FTB-1.0, FTB-1.5				✓	✓	

Proprietary **Product Name / Model**	TLA	TLB	TLC	TLD	TLE	TLN
Nayadic M-6A-F/M-6, M-6A-C/M-6AC-F, M-8A-F/M-8A, M-1050-F/M-1050A, M-1200-F/M-1200A, M-2000-F/M-2000A				✓	✓	
NuWater B-500 with Salcor 3G UV		✓				
NuWater BNR-500, BNR-600		✓	✓	✓		
NuWater BNR-500, BNR-600 with Salcor 3G UV	✓	✓				
Puraflo Peat Fiber Biofilter P150N 3A, P150N 4A, P150N 5A, and P150N 6A					✓	
Puraflo Peat Fiber Biofilter P150N 3B, P150N 4B, P150N 5B, P150N 6B, P150N 7B, P150N 8B, P150N 9B, and P150N 10B			✓	✓	✓	
RetroFAST 0.375					✓	✓
SeptiTech N-M400, N-M550, N-M750, N-M1200 and N-M1500				✓	✓	
SeptiTech M400D, M550D, M750D, M1200D and M1500D					✓	✓
Singulair 960-500, 960-750, 960-1000, 960-1250, 960-1500, 960LP-500, 960LP-1000, 960-OP-500, 960-OP-1000				✓	✓	
Singulair TNT-500, TNT-750, TNT-1000, TNT-1250, TNT-1500, TNT-OP-500, TNT-OP-1000				✓	✓	
Singular TNT-500 with Singulair UV	✓	✓				
TRD-1000-500, 1000-600, 1000-700, 1000-800, 1000-900, 1000-1000 with UV	✓	✓		✓	✓	
Whitewater DF75, DF100, DF100A, DF150				✓	✓	
Whitewater DF50 and DF60 with Salcor 3G UV	✓	✓				

Category 1

Public Domain **Technology Name***	TLA	TLB	TLC	TLD	TLE	TLN
Intermittent Sand Filter System		✓	✓	✓		
Mound System		✓	✓			
Recirculating Gravel Filter System			✓	✓		
Sand Lined Trenches/ Bed System		✓	✓			
Stratified Sand Filter System	✓	✓	✓	✓		

* Listed treatment technologies meet levels of treatment performance when constructed and used according to their respective departmental recommended standards and guidance documents.

Category 2

Proprietary **Product Name / Model**	**TL E**	**High Strength Commercial**	**High Strength Residential**	**Treatment Capacity (pounds per day for $CBOD_5$)**
NIBBLER SBP & NIBBLER CBP	✓	✓	✓	0.81
NIBBLER Jr.	✓		✓	1.0
MicroFAST 0.5	✓		✓	1.0
MicroFAST 0.75	✓		✓	1.5
MicroFAST 0.9	✓		✓	2.0
MicroFAST 1.5	✓		✓	3.2
MicroFAST 3.0	✓		✓	6.4
MicroFAST 4.5	✓		✓	9.5
MicroFAST 9.0	✓		✓	17.0

Registered On-site *Treatment* Products (cont'd)

Category 3

Incinerating Toilets		
Product Name / Model	**Rated Capacity (persons)**	**Voltage (V)**
Incinolet Electric Incinerating Toilet		
Incinolet CF	4-person	120
Incinolet TR	8-person	240
Incinolet WB	4/8-person	120/240

Category 3

Composting Toilets		
Product Name / Model	**Rated Capacity (persons or uses/day)**	**Voltage (V)**
Clivus Multrum Composting Toilet		
M1	10-uses/day	115 or 12
M2	15-uses/day	115 or 12
M3	40-uses/day	115 or 12
M10	60-uses/day	115 or 12
M12	80-uses/day	115 or 12
M15	100-uses/day	115 or 12
M18	120-uses/day	115 or 12
M22	80-uses/day	115 or 12
M28	120-uses/day	115 or 12
M32	110-uses/day	115 or 12
M35	180-uses/day	115 or 12
M54ADA	60-uses/day	12 or 115
Composting Toilet System		
CTS-410	4-person residential	110 or 12
CTS-710	7-person residential	110 or 12
CTS-904	60 uses/day	110 or 12
CTS-914	120 uses/day	110 or 12
CTS-1010	10-person residential (75 uses/day)	110 or 12

Composting Toilets

Product Name / Model	Rated Capacity (persons or uses/day)	Voltage (V)
Outback	0-20 uses/day	110 or 12
Sancor Industries, Envirolet Composting Toilet		
IUEBP06	2-person residential	Non-electric
3UEDC06	4-person residential	12
2UEMS06	6-person residential	110
4UEWRNE06	4-person residential	Non-electric
6UEWSDC06	6-person residential	12
5UEWRAC06	8-person residential	110
Sancor Industries, Santerra Green (formerly Blooloo) Composting Toilet		
BLX10NEU	2-person residential	Non-electric
BLX20DCU	4-person residential	12
BLX30ACU	6-person residential	110
BLX40NEU	4-person residential	Non-electric
BLX50DCU	6-person residential	12
BLX60ACU	8-person residential	110
Sun-Mar Composting Toilet		
Excel	3-person residential	115
Centrex 2000 A/F	4-person residential	115
Centrex 2000 A/F AC/DC	3-person residential	115 & 12
Centrex 3000 A/F	5-person residential	115
Centrex 3000 A/F AC/DC	4-person-residential	115 & 12
Compact	1-person residential	115
Spacesaver	1-person residential	115
Sun-Mar Mobile	1-person residential	12 & 115
Excel NE	2-person residential	Non-electric

Registered On-site *Distribution* Products

Gravelless Chamber Products

Product / Model	Unit Size Outside Dimensions W / L / H (inches)	Void Space per unit (cu. ft)	Void Space per linear foot (cu. ft)	Infiltrative Surface per unit (sq. ft.)	Infiltrative Surface per linear foot (sq. ft.)
Infiltrator Chamber Leach Field System					
Standard	34” x 75” x 12”	10.3	1.65	17.69	2.83
ARC 36	34.5” x 60” x 13”	8.0	1.6	14.38	2.88
ARC 36HC	34.5” x 60” x 16”	10.7	2.14	14.38	2.88
ARC 36 LP	33.8” x 60” x 8”	5.80	1.16	14.08	2.82
ARC 24	22.5” x 60” x 12”	5.02	1.0	9.38	1.88
14” High Capacity	34” x 76” x 14”	14.0	2.25	17.9	2.8
11” Standard	34” 76” x 11”	8.5	1.36	17.9	2.8
Bio 2	15.38” x 86.9” x 12.38”	5.0	0.7	9.0	1.3
Bio 3	22” x 86.9” x 12.38”	8.6	1.2	13.2	1.8
High Capacity	34” x 75” x 16”	16.3	2.61	17.69	2.83
Equalizer 36	22” x 100” x 13”	8.42	1.00	15.24	1.83
Equalizer 24	15” x 100” x 11”	4.45	0.54	10.41	1.25
Quick4 Standard	34” x 48” x 12”	5.82	1.46	11.32	2.83
Quick4 Plus Standard	34” x 48” x 12”	6.20	1.55	11.32	2.83
Quick4 Plus Standard Low Profile (LP)	34” x 48” x 8”	4.28	1.07	11.32	2.83
Quick4 Plus All-In-One Endcap	18” x 13” x 8”	0.68	NA	1.6	NA
Quick4 Plus All-In-One Endcap	18” x 10” x 8”	0.60	NA	1.3	NA
Quick4 Plus Endcap	18” x 4” x 8”	0.14	NA	0.6	NA
Quick4 Standard MultiPort End Cap	34” x 16” x 12”	1.22 (average per unit)	NA	2.43 (average per unit)	NA
Quick4 HiCap	34” x 48” x 16”	8.30	2.08	11.32	2.83
Quick4 HiCap MultiPort End Cap	34” x 19” x 16”	1.93 (average per unit)	NA	3.00 (average per unit)	NA
Quick4 EQ36	22” x 48” x 12”	4.30	1.08	7.32	1.83
Quick4 EQ36 MultiPort End Cap	22” x 16” x 12”	0.74 (average per unit)	NA	1.65 (average per unit)	NA

Gravelless Chamber Products

Product / Model	Unit Size Outside Dimensions W / L / H (inches)	Void Space per unit (cu. ft)	Void Space per linear foot (cu. ft)	Infiltrative Surface per unit (sq. ft.)	Infiltrative Surface per linear foot (sq. ft.)
Quick4 EQ24	16” x 48” x 11”	2.78	0.70	5.32	1.33
Quick4 EQ24 MultiPort End Cap	16” x 14” x 12”	0.52 (average per unit)	NA	1.20 (average per unit)	NA

Geocomposite Drainfield

Product / Model	Unit Size W / L / H (inches)	Void Space per foot^3 of media (cu. ft)	Void Space per arrangement of units (cu. ft)	Void Space per linear foot of trench (cu. ft)	Infiltrative Surface per arrangement units (sq. ft.)	Infiltrative Surface per linear foot (sq. ft.)
Eljen GSF Geotextile Sand Filter System						
GSF/B43 module	36” x 48” x 7”	0.52	6.3	1.57	12	3

Registered On-site *Distribution* Products (cont'd)

Gravel Substitute Products						
Product / Model	**Unit Size W / L / H (inches)**	**Void Space per foot^3 of media (cu. ft)**	**Void Space per arrangement of units (cu. ft)**	**Void Space per linear foot of trench (cu. ft)**	**Infiltrative Surface per arrangement of units (sq. ft.)**	**Infiltrative Surface per linear foot (sq. ft.)**
EZflow systems						
1003-H	30" x 120" x 10" Horizontal arrangement of three 10" diameter "tubes" in a 30" wide trench.	0.4	7.2	0.72	25	2.5
1003-T	24" x 120" x 10" Triangular arrangement of three 10" diameter "tubes" in 24" wide trench.	0.4	7.2	0.72	20	2.0
1203-H	36" x 120" x 12" Horizontal arrangement of three 12" diameter "tubes" in a 36" wide trench.	0.4	10.1	1.01	30	3.0
1003-H-GEO	30" x 120" x 10" Horizontal arrangement of three 10" diameter "tubes" with geotextile in a 36" wide trench.	0.4	7.2	0.72	25	2.5
1003-T-GEO	24" x 120" x 10" Triangular arrangement of three 24" diameter "tubes" in a 24" wide trench	0.4	7.2	0.72	20	2.0
1203-H-GEO	36" x 120" x 12" Horizontal arrangement of three 12" diameter "tubes" with geotextile in a 36" wide trench.	0.4	10.1	1.01	30	3.0

Gravel Substitute Products

Product / Model	Unit Size W / L / H (inches)	Void Space per foot^3 of media (cu. ft)	Void Space per arrangement of units (cu. ft)	Void Space per linear foot of trench (cu. ft)	Infiltrative Surface per arrangement of units (sq. ft.)	Infiltrative Surface per linear foot (sq. ft.)
ICC Flowtech Drainage Systems						
FTSG103 H-1	30” x 120” x 10” Horizontal arrangement of three 12” diameter “tubes” with geotextile in a 36” wide trench.	0.4	7.2	0.72	25	2.5
FTSG103 T-1	24” x 120” x 10” Triangular arrangement of three 10” diameter “tubes” with geotextile in a 24” wide trench.	0.4	7.2	0.72	20	2.5
FTSG123 H-1	36” x 120” x 12” Horizontal arrangement of three 12” diameter “tubes” in a 36” wide trench.	0.4	10.1	1.01	30	3.0

Registered On-site *Distribution* Products (cont'd)

Subsurface Dripline Products

Product Name / Model	Pipe I.D. (inches)	Emitter Discharge Rate (GPH)	Emitter Spacing (inches)	Emitter Type
Geoflow WasteFlow PC 0.53 GPH	0.55	0.53	24, 18, 12, & 6	Pressure compensating
Geoflow WasteFlow PC 1.02 GPH	0.55	1.02	24, 18, 12, & 6	Pressure compensating
Geoflow Wasteflow Classic	0.55	1.3 at 20 PSI	24.18, 12, & 9	Non-compensating (requires pressure regulator)
Netafim Bioline Dripperline 0.4 GPH	0.57	0.42	24, 18, 12	Pressure compensating
Netafim Bioline Dripperline 0.6 GPH	0.57	0.62	24, 18, 12	Pressure compensating
Netafim Bioline Dripperline 0.9 GPH	0.57	0.92	24, 18, 12	Pressure compensating

SECTION 4 - Glossary of Terms

Term	Meaning / Description
Attached Growth	A biological treatment process in which the microorganisms responsible for the conversion of the organic matter or other constituents to gases and cell tissues are attached to some inert medium such as rocks, slag, ceramic or plastic materials. Attached growth treatment processes are also known as fixed film processes.
ATU-Aerobic Treatment Unit	Aerobic treatment units provide aerobic biodegradation or decomposition of wastewater by bringing the wastewater in contact with air. These units come in different configurations and sizes, and incorporate a variety of mechanical (and non-mechanical) methods to enhance aerobic biodegradation of wastewater. Included are air pumps, air injectors, and biological-contact surfaces (such as pipes, fabric, grids, and rotating disks). Exposure of microorganisms to food sources occurs in a saturated setting. Exposure of microorganisms to air occurs in a saturated setting for processes other than rotating biological contactors.
BOD_5-Biochemical Oxygen Demand	A test which measures the molecular oxygen used by microorganisms during a five day incubation period at a temperature of 20^0C (68^0F) for the biochemical degradation of organic material (CARBONACEOUS DEMAND), and the oxygen used by microorganisms to oxidize inorganic material such as sulfides and ferrous iron. It also may measure the amount of oxygen used to oxidize reduced forms of nitrogen such as ammonia and organic nitrogen (NITROGENOUS DEMAND) if the microorganisms capable of mediating the reaction are present in the sample.
$CBOD_5$-Carbonaceous Biochemical Oxygen Demand	Same as the 5-day biochemical oxygen demand (BOD_5) test, except that the NITROGENOUS DEMAND is prevented by addition of a nitrification inhibitor to the sample, typically expressed in mg/L.
Composting Toilets	Composting toilets are designed to store and compost, by aerobic bacterial digestion, human urine and feces, which are non-water-carried. Toilets may include necessary venting, piping, electrical, and/or mechanical components.
Department	The Washington State Department of Health
Design Flow	The maximum volume of sewage a residence, structure or other facility is estimated to generate in a twenty-four-hour period. It incorporates both an operating capacity and a surge capacity for the system during periodic heavy use events. The sizing and design of the on-site sewage system components are based on the design flow.
Disinfection	The process of destroying pathogenic microorganisms in sewage through the application of ultraviolet light, chlorination, or ozonation.
Distribution Technology	Any arrangement of equipment and/or materials that distributes sewage within an onsite sewage system (same as “distribution product”).

Term	Meaning / Description
FC-Fecal Coliform (Bacteria)	Bacteria common to the digestive systems of warm-blooded animals that are cultured in standards tests. Counts of such organism are typically used to indicate potential contamination from sewage or to describe a level of needed disinfection. Generally expressed as colonies per 100ml.
Filtration	A process of separating particulate matter from a fluid by passing it through a permeable material. Typically a process incorporated later in the treatment process as part of the final clarification process, sometimes in advance of disinfection to improve the disinfection process. Filtration also can include the removal of suspended material in effluent by passing of the effluent through a porous medium in which filtration occurs within and on the surface of the filter bed, such as in a packed bed filter.
Gravelless Drainfield Systems	A drainfield system using preformed structures or gravel-substitute to provide void space for passage and storage of effluent, and to provide an interface with the exposed infiltrative surface. These are functions performed by gravel in the conventional drainfield. Four types of systems are approved: gravelless chamber systems, gravelless pipe systems, gravel-substitute systems, and geocomposites. Site, soil, application, design and installation requirements differ for the three system types.
Incinerating Toilets	Self-contained devices that reduce non-water-carried human urine and feces to ash and vapor, including the necessary venting, piping, electrical, and/or mechanical components. The process is fueled by gas, fuel oil, or electricity.
Infiltrative Surface	The surface within a treatment component or soil dispersal component to which effluent is applied and through which effluent moves into original, undisturbed soil or other porous treatment media.
Mound Systems	These wastewater treatment systems are characterized by specified sand media placed upon the ground surface, with effluent being treated before discharge from the sand media into the underlying soil. They share the principal attributes of intermittent sand filters except that the media is not contained within a structure. This technology is generally used at sites with shallow soil conditions over a restrictive layer or elevated groundwater table. Proper operation requires influent to be distributed over the media in controlled, discrete doses. In order to achieve accurate dosing, these systems require either a pump or siphon system with associated pump chambers, electrical components and distribution pipe-work. Current Recommended Standards and Guidance require the use of timed dosing of the effluent and timed resting periods.
O&G-oil and grease (formerly referred to as FOG)	A component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions). Typically expressed in mg/L. High levels of oils and greases in the wastewater stream may interfere with wastewater treatment efficiency.

Term	Meaning / Description
OSS-On-Site Sewage System	An integrated arrangement of components, located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site sewage system also refers to a holding tank sewage system or other system that does not have a soil dispersal component.
PBF- Packed Bed Filter	Packed bed filters (PBF), are also known as fixed film media units and trickling filters. These wastewater treatment systems are packed with filter media, such as sand, gravel, peat, plastic foam, or geotextile, for the aerobic biological and physical treatment of wastewater constituents. Aeration is achieved by air diffusing through the open voids in the media with oxygen diffusing into the cell mass attached to the media. Some units use a small fan to assist aeration. PBFs come in different configurations and sizes, but incorporate the following common elements: a container for holding the filter medium, the filtering media, a distribution or dosing system for applying the wastewater to be treated to the filtering media, and an underdrain system for removing the treated wastewater. These units can be either intermittently dosed (single-pass) or recirculating (multipass). As the wastewater trickles downward over the media, the bacteria extract the organic matter and use the dissolved oxygen from the wastewater. Exposure of microorganisms to both air and food sources occurs in an unsaturated setting.
Proprietary Product	A sewage treatment technology, method, or material subject to a patent or trademark. (Same as “proprietary on-site product”).
Public Domain Technology	A sewage treatment and distribution technology, method, or material not subject to a patent or trademark.
Pump Chamber	A tank or compartment following the septic tank or other pretreatment process which contains a pump, floats and volume for storage of effluent. In timer-controlled pressure distribution systems, this is frequently called a "surge tank" or "equalization tank." If a siphon is used, in lieu of a pump, this is called a "siphon chamber."
Registered List	“List of Registered On-site Treatment and Distribution Products”, developed and maintained by the department and containing a list of treatment and distribution products that meets the requirements for product registration in WAC 246-272A.
Residential Sewage	Sewage having the consistency and strength typical of wastewater from domestic households.
Rotating Biological Contactor (RBC)	A type of attached growth treatment process consisting of disks oriented on a drive shaft which rotates, alternately exposing the attached microorganisms to the atmosphere and the wastewater.

Term	Meaning / Description
Sand Filters	Wastewater treatment systems characterized by a relatively large container and means for distributing septic tank effluent atop a layer, or layers, of graded sand (or gravel) where, as the wastewater moves downward, it undergoes biochemical aerobic biological & physical treatment. Aeration is achieved by air diffusing through the open voids in the sand with oxygen diffusing into the cell mass attached to the media. There are many different designs of sand filter, but they can generally be divided into two types: single-pass filters, and multiple-pass filter. The RS&G's for the sand filter technologies address three single-pass sand filters (intermittent, sand-lined drainfield trench, and stratified) and one multiple-pass filter (recirculating gravel filter system).
Sequencing Batch Reactor (SBR)	A sequential suspended growth process in which all major steps, flow equalization, aeration, and clarification, occurs in the same tank in sequential order. SBRs include intermittent flow batch reactors and continuous flow systems.
Sewage	Any urine, feces, and the water carrying human wastes including kitchen, bath, and laundry wastes from residences, building, industrial establishments or other places. For the purposes of this document, "sewage" is generally synonymous with domestic wastewater. Also see "residential sewage."
Sewage Quality	Contents in sewage that include: (a) CBOD5, TSS, and O&G; (b) Other parameters that can adversely affect treatment. Examples include pH, temperature, and dissolved oxygen; (c) Other constituents that create concerns due to specific site sensitivity. Examples include fecal coliform and nitrogen.
Soil Dispersal Component	A technology that releases effluent from a treatment component into the soil for dispersal, final treatment, and recycling.
Subsurface Drip System	An efficient pressurized wastewater distribution system that can deliver small, precise doses of effluent to soil surrounding the drip distribution piping (called dripline) as described in the department's "Recommended Standards and Guidance for Subsurface Drip Systems.
SSAS-Subsurface Soil Absorption System	A soil dispersal component of trenches or beds containing either a distribution pipe within a layer of drainrock covered with a geotextile, or an approved gravelless distribution technology, designed and installed in original, undisturbed, unsaturated soil providing at least minimal vertical separation as established this chapter, with either gravity or pressure distribution of the treatment component effluent.
Suspended Growth	A biological wastewater treatment process in which microorganisms responsible for the conversion of the organic matter or other constituents in the wastewater to gases and cell tissue are maintained in suspension within the liquid.

Term	Meaning / Description
TN-Total Nitrogen	A measure of the complete nitrogen content in wastewater, typically expressed as mg/L. The forms of nitrogen of greatest interest are nitrate ($NO3^-$), nitrite ($NO2^-$), ammonia (NH3), and organic nitrogen; all these forms of nitrogen, as well as nitrogen gas (2), are biochemically interconvertible and are components of the nitrogen cycle; the total nitrogen content of wastewater can be determined by measuring nitrate, nitrite, ammonia, and Kjeldahl nitrogen.
TS1-Treatment Standard 1	A thirty-day average of less than 10 milligrams per liter of biochemical oxygen demand (five-day BOD_5), 10 milligrams per liter of total suspended solids (TSS), and a thirty-day geometric mean of less than 200 fecal coliform per 100 milliliters.
TS2-Treatment Standard 2	A thirty-day average of less than 10 milligrams per liter of biochemical oxygen demand (five-day BOD_5), 10 milligrams per liter of total suspended solids (TSS), and a thirty-day geometric mean of less than 800 fecal coliform per 100 milliliters.
TSS-Total Suspended Solids	Suspended solids refer to the dispersed particulate matter in a wastewater sample that may be retained by a filter medium, typically expressed in mg/L. Suspended solids may include both settleable and unsettleable solids of both inorganic and organic origin. This parameter is widely used to monitor the performance of the various stages of wastewater treatment, often used in conjunction with BOD5 to describe wastewater strength. The test consists of filtering a known volume of sample through a weighed filter membrane that is then dried and re-weighed.
Treatment Component	A technology that treats sewage in preparation for further and/or dispersal into the soil environment. Some treatment components, such as mound systems, incorporate soil dispersal components in lieu of separate treatment and soil dispersal components (same as “treatment product”).
Treatment Level	One of six levels (A, B, C, D, E, & N) to: (a) Identify treatment component performance demonstrated through requirements specified in WAC 246-272A-0110; and (b) match site conditions of vertical separation and soil type with treatment components. Treatment levels used in these rules are not intended to be applied as field compliance standards. Their intended use is for establishing treatment product performance in a product testing setting under established protocols by qualified testing entities.
Treatment Sequence	Any series of treatment components that discharges treated sewage to the soil dispersal component.
Trickling Filter process	An attached growth treatment process that uses porous media (usually rock or plastic) contained in a tank, which serves as a surface on which microbiological growth occurs. Wastewater is sprayed into the air (aeration) over the top of the media then allowed to trickle through the media at regular intervals. Microorganisms attached to and growing on the media, break down organic material in the wastewater.

Term	Meaning / Description
UMF - Upflow Media Filter	Upflow media filters involve the biological treatment of septic tank effluent as it flows upward through filter media within a containment vessel. Much of the treatment is through attached growth anaerobic processes as the wastewater passes upward through the media. Various sizes and types of media can be used either singly or in combination in succeeding layers. The anaerobic phase can be followed by an aerobic phase to produce a high quality effluent.
30-day Average	The average of daily measurements over a calendar month calculated as the sum of all daily measurements taken during a calendar moth divided by the number of daily measurements taken during that month.